

REMARKS

Applicant has carefully reviewed and considered the Final Office Action mailed on May 25, 2005, and the references cited therewith.

Claims 1, 11, 16, 23, 26, 35, and 40 are amended, claims 2-4, 10, 12, 14-15, 17-19, 25, 27-28, 30-34, and 37 are canceled, and no claims are added; as a result, claims 1, 5-9, 11, 13, 16, 20-24, 26, 29, 35-36, and 38-42 are now pending in this application.

Claim Objections

Claims 11 and 28 were objected to because of the following informalities:

There is a lack of antecedent basis for “the at least one other range” as recited in claim 11.

Claim 11 has been amended to provide proper antecedent basis for all elements and limitations in the claim. Accordingly, Applicant respectfully requests withdrawal of the objection to claim 11.

The Examiner also notes that claim 28 requires the word “light” either before or after the word “projected”.

Claim 28 has been canceled.

§102 Rejection of the Claims

Claims 1-2, 5-7, 13, 15-17, 19-22, 26, 29, 35-36, and 38-42 were rejected under 35 USC §102(b) as being anticipated by Do (U.S. Patent No. 5,957,560).

Claims 1, 5-7, 16, 20-22, 26, 29, 35-36, and 38-42

The Do reference appears to teach a “mask between the fluorescent screen 24 and the optical system. The mask is preferably made of materials that are resistant to ultraviolet rays and absorb visible rays” (Col. 5, Lines 62-67). The Do reference does not describe an absorbent material between a substrate and a fluorescent material, wherein the fluorescent material emits visible light with an incidence of one or more wavelengths of light and absorbs visible light in at least one other range of wavelengths not included in the one or more ranges and the absorption material reflects wavelengths of light in the one or more ranges and absorbs wavelengths of light not included in the one or more ranges nor in the at least one other range.

Moreover, the Do reference does not describe a Lambertian distribution nor does the Do reference describe how to provide a Lambertian distribution, as discussed in the Applicant's Application, page 12, paragraph 39.

In contrast, Applicant's independent claim 1, as amended, recites:

one or more absorption materials, disposed between the substrate and the one or more fluorescent materials, that reflect wavelengths of light in the one or more ranges and absorb wavelengths of light that are not included in the at least one other range nor in the one or more ranges, wherein the visible light emitted by the one or more fluorescent materials provides an image with an incidence of an output from a projector having wavelengths of light in the one or more ranges and the output from the projector is directional and the emitted visible light has a Lambertian distribution

In addition, Applicant's independent claim 16, as amended, recites:

a fluorescent material that is configured to: emit visible light with the incidence of the one or more ranges of wavelengths of light wherein the emitted visible light has a Lambertian distribution; and absorb visible wavelengths of light in at least one other range that is not included in the one or more ranges; and an absorption material disposed between the substrate and the fluorescent material which is configured to: absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range; and reflect wavelengths of light in the one or more ranges.

Furthermore, Applicant's independent claim 26, as amended, recites:

one or more fluorescent materials that emit visible light with the incidence of the one or more ranges of wavelengths of light and absorb wavelengths of light in at least one other range, wherein the projected image is directional and the emitted visible light has a Lambertian distribution; and one or more absorption materials, between a substrate and the one or more fluorescent materials, that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range and reflect wavelengths of light in the one or more ranges

Moreover, Applicant's independent claim 35, as amended, recites:

forming over a substrate one or more absorption materials that reflect wavelengths of light in one or more ranges and absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range; forming over the one or more absorption materials one or more fluorescent materials that emit visible light with an incidence of the one or

more ranges of wavelengths of light and absorb wavelengths of light in the at least one other range, wherein the visible light emitted by the one or more fluorescent materials provides an image with an incidence of an output from a projector having wavelengths of light in the one or more ranges and the emitted visible light has a Lambertian distribution

In addition, Applicant's independent claim 40, as amended, recites:

emit visible light from one or more fluorescent materials with an incidence of the one or more ranges of wavelengths of light wherein the emitted visible light has a Lambertian distribution; absorb visible wavelengths of light with the one or more fluorescent materials in at least one other range that is not included in the one or more ranges; absorb wavelengths of light, with one or more absorption materials, that are not included in the one or more ranges nor in the at least one other range; and reflect wavelengths of light in the one or more ranges with the one or more absorption materials, wherein the one or more absorption materials are between a substrate and the one or more fluorescent materials

As such, Applicant submits that each and every element and limitation is not provided in the Do reference to support a 102 rejection of independent claims 1, 16, 26, 35 and 40, as amended. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 102 rejection of independent claims 1, 16, 26, 35 and 40, as well as all claims that depend therefrom.

Claims 13 and 15

Claims 13 and 15 depend from independent claim 11. Independent claim 11 has not been identified as being rejected under 102 by the Do reference. Accordingly, Applicant respectfully requests withdrawal of the 102 rejection to dependent claims 13 and 15.

Claims 2, 17, and 19

Claims 2, 17, and 29 have been canceled.

Claims 1-3, 5-9, 11, 13, 15-17, 19-22, 26, 29, 35-36, and 38-42 were rejected under 35 USC §102(b) as being anticipated by Friesem (U.S. Patent No. 3,881,800).

Claims 1-2, 5-9, 11, 13, 15-16, 20-22, 26, 29, 35-36, and 38-42

The Friesem reference appears to teach a template with a layer of black dye (Col. 1, Line 67-Col. 2, Line 2) over which “white primer dots 11” are printed (Col. 2, lines 15-20) and finally including fluorescent dyes printed on the dots. Within the visible spectrum, the black layer will absorb all ranges of wavelengths of light (Col. 2, lines 1-2) and the white layer will reflect all ranges of wavelengths of light (Col. 2, lines 15-20). The Friesem reference does not describe an absorbent material between a substrate and a fluorescent material, wherein the fluorescent material emits visible light with an incidence of one or more wavelengths of light and absorbs visible light in at least one other range of wavelengths not included in the one or more ranges and the absorption material reflects wavelengths of light in the one or more ranges and absorbs wavelengths of light not included in the one or more ranges nor in the at least one other range. Moreover, the Friesem reference does not describe a Lambertian distribution nor does the Friesem reference describe how to provide a Lambertian distribution, as discussed in the Applicant’s Application, page 12, paragraph 39.

In contrast, Applicant’s independent claim 1, as amended, recites:

one or more absorption materials, disposed between the one or more fluorescent materials and the substrate, that reflect wavelengths of light in the one or more ranges and absorb wavelengths of light that are not included in the at least one other range nor in the one or more ranges, wherein the visible light emitted by the one or more fluorescent materials provides an image with an incidence of an output from a projector having wavelengths of light in the one or more ranges and the output from the projector is directional and the emitted visible light has a Lambertian distribution

In addition, Applicant’s independent claim 11, as amended, recites:

one or more absorption materials, between the substrate and the one or more fluorescent materials, that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range and reflect wavelengths of light that are included in the one or more ranges, wherein the visible light emitted by the one or more fluorescent materials contributes to an image with an incidence of an output from a projector having wavelengths of light in the one or more ranges and the output from

the projector is directional and the emitted visible light has a Lambertian distribution

Moreover, Applicant's independent claim 16, as amended, recites:
a fluorescent material that is configured to: emit visible light with the incidence of the one or more ranges of wavelengths of light wherein the emitted visible light has a Lambertian distribution; and absorb visible wavelengths of light in at least one other range that is not included in the one or more ranges; and an absorption material this is configured to: absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range; and reflect wavelengths of light in the one or more ranges, wherein the absorption material is disposed between the substrate and the fluorescent material

In contrast, Applicant's independent claim 26, as amended, recites:

one or more fluorescent materials that emit visible light with the incidence of the one or more ranges of wavelengths of light and absorb wavelengths of light in at least one other range, wherein the projected image is directional and the emitted visible light has a Lambertian distribution; and one or more absorption materials, between a substrate and the one or more fluorescent materials, that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range and reflect wavelengths of light in the one or more ranges

Furthermore, Applicant's independent claim 35, as amended, recites:

forming over a substrate one or more absorption materials that reflect wavelengths of light in one or more ranges and absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range; forming over the one or more absorption materials one or more fluorescent materials that emit visible light with an incidence of the one or more ranges of wavelengths of light and absorb wavelengths of light in the at least one other range, wherein the visible light emitted by the one or more fluorescent materials provides an image with an incidence of an output from a projector having wavelengths of light in the one or more ranges and the emitted visible light has a Lambertian distribution

In addition, Applicant's independent claim 40, as amended, recites:

emit visible light from one or more fluorescent materials with an incidence of the one or more ranges of wavelengths of light wherein the emitted visible light has a Lambertian

distribution; absorb visible wavelengths of light with the one or more fluorescent materials in at least one other range that is not included in the one or more ranges; absorb wavelengths of light, with one or more absorption materials, that are not included in the one or more ranges nor in the at least one other range; and reflect wavelengths of light in the one or more ranges with the one or more absorption materials, wherein the one or more absorption materials are between a substrate and the one or more fluorescent materials

As such, Applicant submits that each and every element and limitation is not provided in the Friesem reference to support a 102 rejection of independent claims 1, 11, 16, 26, 35, and 40, as amended. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 102 rejection of independent claims 1, 11, 16, 26, 35 and 40, as well as all claims that depend therefrom.

Claims 2, 17, and 19

Claims 2, 17, and 29 have been canceled.

§103 Rejection of the Claims

Claims 4, 14, 18, 23-24, 28, and 37 were rejected under 35 USC §103(a) as being unpatentable over Do (U.S. Patent No. 5,957,560) in view of Spector (U.S. Patent No. 4,323,301) or in view of Freese (U.S. Patent No. 6,816,306).

Claim 4

Claim 4 depends from independent claim 1. For the reasons provided above, Applicant believes that independent claim 1 is allowable over the Do reference. The Spector and Freese references do not cure the deficiencies of the Do reference. That is, neither Spector nor Freese describe, teach or suggest an absorbent material between a substrate and a fluorescent material, wherein the fluorescent material emits visible light with an incidence of one or more wavelengths of light and absorbs visible light in at least one other range of wavelengths not included in the one or more ranges and the absorption material reflects wavelengths of light in the one or more ranges and absorbs wavelengths of light not included in the one or more ranges nor in the at least one other range.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of dependent claim 4.

Claim 14

Claim 14 depends from independent claim 13. For the reasons provided above, Applicant believes that independent claim 13 is allowable over the Do reference. The Spector and Freese references do not cure the deficiencies of the Do reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of dependent claim 14.

Claim 18

Claim 18 depends from independent claim 16. For the reasons provided above, Applicant believes that independent claim 16 is allowable over the Do reference. The Spector and Freese references do not cure the deficiencies of the Do reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of dependent claim 16.

Claims 23-24

As noted above, the Do appears to teach an optical system. The Do reference does not disclose an absorbent material between a substrate and a fluorescent material, wherein the fluorescent material emits visible light with an incidence of one or more wavelengths of light and absorbs visible light in at least one other range of wavelengths not included in the one or more ranges and the absorption material reflects wavelengths of light in the one or more ranges and absorbs wavelengths of light not included in the one or more ranges nor in the at least one other range.

The Spector and Freese references do not cure this deficiency of the Do reference.

Additionally, Do does not disclose a Lambertian distribution, nor does the reference describe the properties of a Lambertian distribution, as discussed in the Applicant's Application, page 12, paragraph 39.

While Spector and Freese mention a Lambertian distribution, neither recite fluorescence nor are directed to the field of fluorescent screens having an absorption material between the substrate and a fluorescent material of such a screen to achieve the same.

In contrast, Applicant's independent claim 23, as amended, recites:

an image forming device that forms an image composed of the one or more ranges of UV wavelengths of light such that with the incidence of the image on a projection screen that includes one or more fluorescent materials, the projection screen emits visible light such that the image is viewable by the human eye; one or more absorption materials, between a substrate and the one or more fluorescent materials, that absorb wavelengths of light that are not included in the one or more ranges and are not included in at least one other range and reflect wavelengths of the one or more ranges, wherein the image that is formed by the projector is directional and the emitted visible light has a Lambertian distribution.

As such, each and every element and limitation of independent claim 23 is not described, taught, or suggested in the references, either independently or in combination.

Moreover, Applicant respectfully submits that it would be inappropriate to combine the primary reference, Do, with the secondary references, Spector and Freese, because the secondary references are not directed toward the field of fluorescents.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of independent claim 23, as well as all claims that depend therefrom.

Claim 28

Claim 28 has been canceled.

Claim 37

Claim 37 depends from independent claim 35. For the reasons provided above, Applicant believes that independent claim 35 is allowable over the Do reference. The Spector and Freese references do not cure the deficiencies of the Do reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of dependent claim 37.

Claims 4, 14, 18, 23-24, 28, and 37 were rejected under 35 USC §103(a) as being unpatentable over Friesem (U.S. Patent No. 3,881,800) in view of Spector (U.S. Patent No. 4,323,301) or in view of Freese (U.S. Patent No. 6,816,306).

Claim 4

Claim 4 depends from independent claim 1. For the reasons provided above, Applicant believes that independent claim 1 is allowable over the Friesem reference. The Spector and Freese references do not cure the deficiencies of the Friesem reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of dependent claim 4.

Claim 14

Claim 14 depends from independent claim 13. For the reasons provided above, Applicant believes that independent claim 13 is allowable over the Friesem reference. The Spector and Freese references do not cure the deficiencies of the Friesem reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of dependent claim 14.

Claim 18

Claim 18 depends from independent claim 16. For the reasons provided above, Applicant believes that independent claim 16 is allowable over the Friesem reference. The Spector and Freese references do not cure the deficiencies of the Friesem reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of dependent claim 16.

Claims 23-24

As noted above, the Friesem reference appears to describe a display system. However, the Friesem reference does not describe, teach or suggest one or more absorption materials, between a substrate and the one or more fluorescent materials, that absorb wavelengths of light that are not included in the one or more ranges and are not included in at least one other range and reflect wavelengths of the one or more ranges. Additionally, the Friesem reference does not describe, teach or suggest a Lambertian distribution nor the properties of a Lambertian distribution, as discussed in the Applicant's Application, page 12, paragraph 39.

As noted above in connection with the 103 rejection based on Do, the Spector and Freese references do not cure these deficiencies.

In contrast, Applicant's independent claim 23, as amended, recites:

an image forming device that forms an image composed of the one or more ranges of UV wavelengths of light such that with the incidence of the image on a projection screen that includes one or more fluorescent materials, the projection screen emits visible light such that the image is viewable by the human eye; one or more absorption materials, between a substrate and the one or more fluorescent materials, that absorb wavelengths of light that are not included in the one or more ranges and are not included in at least one other range and reflect wavelengths of the one or more ranges, wherein the image that is formed by the projector is directional and the emitted visible light has a Lambertian distribution.

As such, each and every element and limitation of independent claim 23 is not provided by the references, either independently or in combination. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of independent claim 23 based on Friesem, as well as all claims that depend therefrom.

Claim 28

Claim 28 has been canceled.

Claim 37

Claim 37 depends from independent claim 35. For the reasons provided above, Applicant believes that independent claim 35 is allowable over the Friesem reference. The Spector and Freese references do not cure the deficiencies of the Friesem reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of dependent claim 37.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney Gregg W. Wisdom at (360) 212-8052.

At any time during the pendency of this application, please charge any additional fees or credit overpayment to the Deposit Account No. 08-2025.

CERTIFICATE UNDER 37 CFR §1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS AF Commissioner for Patents, P.O. BOX 1450 Alexandria, VA 22313-1450, on this 15th day of July, 2005.

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